

REMARKS

Claims 39-79 have been cancelled without prejudice, and claims 80-87 have been added. No new matter has been added by virtue of the new claims. For instance, support for the new claims appears e.g. at page 3, line 14 through page 4, line 2; page 5, lines 3-4 and 21-24; page 7, lines 9-19; page 8, lines 21-26; page 9, lines 24-29; page 10, line 27 through page 11, line 20; and the original claims of the application.

Applicants respond to the prior Office Action as follows.

Claims 34, 35, 37, 38, 41, 43, 46-50, 53-57, 59-62, 64, 65, 68, 70 and 73-77 were rejected under 35 U.S.C. 102 over Sato et al. (U.S. Patent 6270948). The rejection is traversed.

Claim 80 (the only pending independent claim) calls for an antireflective composition that comprises a silsesquioxane resin having one or more optionally substituted anthracene groups.

The Sato document does not disclose or suggest use of a silsesquioxane resin. Accordingly, the rejection should be withdrawn. See *In re Marshall*, 198 USPQ 344, 346 (CCPA 1978) ("[r]ejections under 35 U.S.C. §102 are proper only when the claimed subject matter is identically disclosed or described in the prior art.").

Claims 62-64 were rejected under 35 U.S.C. 102 over EP 0501178. The rejection is traversed.

As with the Sato document, EP 0501178 does not disclose use of a silsesquioxane resin having one or more optionally substituted anthracene groups. Accordingly, the rejection is properly withdrawn.

Claim 58 was rejected under 35 U.S.C. 103 over Sato et al. (U.S. Patent 6270948) in view of Ding et al. (U.S. Patent 5981145). The rejection is traversed.

The addition of Ding et al. does not remedy the deficiencies of Sato et al. as noted above. For instance, among other things, Ding et al. does not disclose or otherwise suggest an underlying antireflective composition that comprises a silsesquioxane resin as recited in Applicants' independent claim 80.

In view thereof, withdrawal of the rejection is requested.

Claims 36, 42 and 69 were rejected under 35 U.S.C. 103 over Sato et al. (U.S. Patent 6270948) in view of Clodgo et al. (U.S. Patent 4981530). As grounds for the rejection, the following is stated in the Office Action (pages 7-8):

Sato remains silent about antireflective composition, which comprises silsesquioxane resin. However, Sato motivates the skilled artisan to add different ingredients to his silicon containing antireflective coating composition in order to facilitate the use of his composition and improve its properties, for example adhesion (col. 27, lines 52-63).

Silsesquioxane resins is conventionally used in semiconductor processing for obtaining thermally stable and crack resistant films with improved adhesion properties, which is recited in Clodgo, col. 2, lines 15-18; col. 5, lines 1-9. Therefore, the skilled artisan, motivated by disclosure of Sato and teaching of US '530, would have found it obvious to introduce the silsesquioxane of Clodgo into the organosilicon antireflective coating in order to improve its adhesion while forming the semiconductor structure of Sato and thus to arrive at the limitations as instantly claimed.

The rejection is traversed.

The skilled worker would have had no incentive to make the combination proposed by the instant rejection.

In particular, the Clodgo document reports a certain **insulation layer**. No suggestion would have existed to overcoat that insulation layer with a photoresist, or that any single component of the Clodgo et al. system should or could be successfully incorporated into a composition as reported by Sato et al.

Additionally, contrary to the position advanced in the instant rejection, the cited disclosure of Sato et al. at col. 27, lines 52-63 does not provide the skilled worker any particular incentive to look to materials of Clodgo. Rather, the cited disclosure of Sato et al. is quite specific on possible materials to optionally incorporate, and those materials clearly do not include a silsesquioxane resin. Thus, Sato et al. at col. 27, lines 52-63 reads as follows:

If desired, a thermal polymerization inhibitor for improving the storage stability of the organosilicon compounds, an adhesion improver for improving the adhesion of the organosilicon compound to a work film, an ultraviolet absorbing dye for preventing the light reflected by the work film from reflecting into a resist film, an ultraviolet-absorbing polymer such as a polysulfone, polybenzimidazole, a conductive material, a substance exhibiting conductivity by the effect from light or heat, or a crosslinking agent for crosslinking the organosilicon compound may be added to these organosilicon compounds.

Still further, the cited resin of Clodgo et al. does not contain *any* aromatic groups, much less anthracene groups as recited in Applicants' pending claims.

Still further, no disclosure exists that a silsesquioxane material as reported by Clodgo et al. would be expected to provide enhanced adhesion, particularly in a system of Sato et al, which reports a composition that already contains a certain Si material.

In view thereof, reconsideration and withdrawal of the rejection are requested.

Pavelchek et al.
U.S.S.N. 09/330,417
Page 7

It is believed the application is in condition for immediate allowance, which action is earnestly solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Peter F. Corless', written in a cursive style.

Peter F. Corless (Reg. 33,860)
EDWARDS & ANGELL, LLP
P.O. Box 9169
Boston, MA 02209
(617) 439-4444